

IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please AMEND claims 1, 4-5 and 8 in accordance with the following:

1. (Currently amended) A non-electrolytic energy production system for dissociating H<sub>2</sub>O molecules at or near a reactive or catalytic surface, the system comprising:

a first and a second reactor each having H<sub>2</sub>O as a feed material, and ~~in which~~comprising:

\_\_\_\_\_ an electronegative half cell reaction producing hydrogen;

\_\_\_\_\_ a first electropositive half cell reaction having a sufficient potential to drive said electronegative half cell reaction; and

\_\_\_\_\_ a second electropositive half cell reaction ~~all occur~~;

\_\_\_\_\_ wherein said first and second electropositive half cell reactions are selected in ~~combination~~combined with said electronegative half cell reaction to produce hydrogen and/or energy production from the feed material; and

wherein H<sub>2</sub>O in the form of steam produced as a by-product in the first reactor is introduced at elevated temperature and a positive pressure as the feed material into the second reactor as the sole energy input, to provide the necessary activation energy used by the reaction in the second reactor.

2-3. (Cancelled)

4. (Currently amended) An energy production system according to claim 1, wherein the reactor or half cell reactions require or are assisted by the provision of a reactive or catalytic surface.

5. (Currently amended) An energy production system according to claim 1, wherein the reaction system includes one or more electropositive half cell reactions involving the oxidation of species selected from Group I or Group II metals, binary hydrides, ternary hydrides, amphoteric

elements, electropositive elements in groups one and two of the periodic table and chelated transition elements, oxyacids of phosphorus and oxyacids of sulfur.

6. (Previously presented) An energy production system according to claim 1, wherein the reactors include one or more electropositive half cell reactions involving a metal organic complex capable of changing configuration to release one or more electrons in a realisation of an increased co-ordination number.

7. (Previously presented) An energy production system according to claim 1, wherein the reactors form a semi-conductive material or molecule.

8. (Currently amended) An energy production system according to claim 57, wherein the semiconductive material or molecule is a composite material or molecule.

9. (Original) An energy production system according to claim 1, further including an associated heat exchange system that can be used to transfer heat from an exothermic chemical reaction in the cell or control the rate of exothermic chemical reaction(s).

10. (Cancelled)

11. (Previously presented) An energy production system according to claim 1, wherein a portion of the energy added to the second reactor by the addition of the steam is used by reaction systems in the second reactor to dissociate H<sub>2</sub>O molecules at or near a reactive or catalytic surface.